



Northern Technical University
Engineering Technical College / Mosul
Power Mechanics Engineering Technology
Postgraduate Studies – Master's in Thermal
Engineering Techniques – Course Materials



First Semester				
No.	Subject	Theoretical hours	Practical hours	Units
1	Advanced Heat Transfer	2	--	2
2	Advanced Fluid Mechanics	2	2	3
3	Advanced Thermodynamics	2	--	2
4	Test Rigs Design, Measurements, and Data Analysis.	1	--	1
5	Advanced Applied Mathematics	2	--	2
6	Thermal Systems Design	2	--	2
7	English Language	1	--	1
Total		12	2	13



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Second Semester				
No.	Subject	Theoretical hours	Practical hours	Units
1	Advanced Heat Exchanger Design	2	2	3
2	Computational Fluid Dynamics (CFD)	2	--	2
3	Exergy Analysis for Thermal Systems	2	--	2
4	Renewable Energy	2	--	2
5	Elective Subject	2	--	2
6	Research Methodology	2	--	2
Total		12	2	13

Elective Subjects				
No.	Subject	Theoretical hours	Practical hours	Units
1	Advanced Power Plant Engineering	2	--	2
2	Mixed Refrigerants & Low-Temperature Applications	2	--	2
3	Combustion Dynamics & Environment	2	--	2